

Testimony of Jack A. Sobel
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 The Ocean Conservancy
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 Subcommittee on Fisheries, Wildlife, and Oceans

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Good Morning. I am Jack Sobel, Senior Director for Ecosystem Protection for The Ocean Conservancy (TOC), formerly the Center for Marine Conservation. The Ocean Conservancy strives to be the world's foremost advocate for the oceans. With a nearly-100 member staff serving 900,000 members and volunteers, we work to inform, inspire, and empower people to speak and act for the oceans through science-based advocacy, research, and public education. Headquartered in Washington D.C., The Ocean Conservancy has additional offices in Alaska, California, Florida, Maine, Virginia, and the U.S. Virgin Islands.

During my tenure with The Ocean Conservancy, I have directed its habitat, marine protected area, and ecosystem programs, and served as its Senior Ecosystem Scientist. These positions have provided opportunities to lead and participate in several coral reef conservation policy and science efforts. Prior to joining TOC, I acquired extensive coral reef field experience, first by working as a researcher at the West Indies Laboratory in the Virgin Islands, and then by establishing and directing a research program in Belize. Living in these island communities contributed greatly to my appreciation, understanding, and concern for not only the remarkable living systems we call coral reefs, but also for those who most directly depend on them. I am an angler, a diver, a conservationist, a scientist, and most recently a father. My introduction to and love for coral reefs dates back nearly four decades ago to family vacations and fishing with my father in the Florida Keys.

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Coral Reefs: Diverse, Complex, Valuable, Important, Endangered

Coral reefs are among the most biologically valuable, fragile and endangered ecosystems on Earth. They are also among our most spectacular, diverse and complex marine systems, providing homes to nearly 100,000 known organisms and likely a million or more species yet to be discovered. These reefs are much more than just corals. They are a myriad of interwoven and interdependent habitats and associated organisms. The coral reef community includes more than 4,000 species of fish, as well as extraordinary plant and algal diversity. Coral reefs and marine systems in general are much more diverse at higher taxonomic levels and consequently may harbor much more of the world's genetic diversity than terrestrial systems. For example, the diversity of photosynthetic machinery in green algae alone dwarfs that found in all terrestrial plants.

This remarkable diversity is rivaled by an extraordinary degree of complexity, interdependence, complexity and specialization among reef dwellers. ~~such as the interdependence and specialization, and~~ Amazing symbiotic relationships and the fierce predator-prey, grazer-producer, and competitive interactions are commonplace on reefs found among reef dwellers. The remarkable relationships among species are critical to structuring reef communities, controlling energy and nutrient flow on reefs, and to maintaining the tight recycling of materials typical of reef systems. Corals, algae and other species constantly compete for space on a reef and fish grazing profoundly impacts the distribution and abundance of reef seaweeds, altering the balance among combatants. On shallow reefs, fish may consume from 50-

100% of algal production and take 40,000-156,000 bites/square meter/day. Predators and herbivores are often highly specialized in their feeding preferences. Reef fish composition profoundly affects the whole reef community. Consequently, when fishing and other extractive activities remove critical living components of reefs, the reef community becomes less stable and loses its resistance and resilience to respond to change. Its ability to respond to other disturbances or withstand poor water quality, global change and other stresses may be markedly impaired. ~~Coral reefs are also among our most valuable, fragile and endangered ecosystems. The relationships among species are critical to understanding reef communities; not only their structure but also their processes, such as energy and nutrient flow or the tight recycling of materials characteristic of reef systems. Consequently, when fishing and other extractive activities often remove critical living components of reefs, the reef community may become destabilized; its ability to withstand poor water quality and other stresses impaired.~~

The array of threats facing U.S. and global coral reefs is powerful and taking a heavy and increasing toll on them. Multiple stressors are affecting most, if not all of the world's reefs. There is strong recognition within the scientific community that fishing and pollution impacts are among the most critical threats to the health of coral reefs and that it is therefore imperative to address those impacts as immediately as possible. Fishing impacts are especially widespread, weaken the resistance and resilience of reefs to other natural and human stresses, and often act in consort with other threats to undermine the health of reefs. Fishing impacts can act synergistically with pollution, global change and other threats at the local, regional, and global levels to exacerbate the harm they cause. Global change may be among the greatest long-term threats to coral reef health, but many reefs may be gone before its impact is fully felt. Marine protected areas, especially marine "no-take" reserves are among the most critical, science-based tools available to address fishing impacts and protect coral reef ecosystem integrity.

Coral reefs have great economic and intrinsic value. In addition to their incalculable ecological value, studies have estimated that the world's reefs provide up to \$375 billion per year in goods and services despite covering less than one percent of the Earth's service. On a more local scale, recent studies estimate the capitalized value of the reefs surrounding the Florida Keys alone at close to \$2 billion. Guam's 69 square kilometers of reefs contribute greatly to a \$1.5 million diving industry and support a \$143 billion tourism industry. Admittedly, it is difficult to place a price tag on these natural systems, but such figures are still worth considering. Aesthetic, spiritual, biodiversity, and existence values are especially hard to calculate, but may be among the most important provided by reefs.

~~Over~~ The last three decades have brought an increasingly broad consensus that coral reefs are tremendously valuable, rapidly declining and highly threatened due to multiple stressors, and that their decline has high human and ecological costs. In 2000, a large multi-national group of coral reef scientists concluded in the *Status of Coral Reefs of the World: 2000* that roughly two-thirds of the world's reefs had already been destroyed or would be destroyed within 30 years unless strong action was taken to address human impacts quickly. Without additional effort and protection, we face the continued decline and loss of these complex, spectacular and fragile natural systems.

Administrative and Legislative Tools for Coral Reef Protection

I. Executive Order 13089 on Coral Reef Protection

In recent years, the United States Government has taken several key administrative and legislative steps to

address the growing coral reef crisis. In 1998, President Clinton issued Executive Order 13089 on Coral Reef Protection ~~that to~~

~~1. Established~~ a “no-degradation” policy for all ~~F~~ederal ~~A~~gency actions that might affect U.S. coral reef ecosystems; ~~and to~~
~~1. Required~~ ~~f~~Federal ~~A~~gencies to implement conservation measures to protect and restore coral reefs from human impacts, ~~such as including~~ fishing and pollution~~2.~~

II. Coral Reef Task Force

The Executive Order also c

~~C~~reated the U.S. Coral Reef Task Force (CRTF), which is jointly chaired by the Secretaries of Commerce and Interior and includes ~~ing, but not limited to,~~ the heads of at least thirteen other agencies. The Task Force is charged with, ~~to~~ addressing activities impacting ~~affecting~~ reefs and developing plans and strategies for protecting coral reef resources; T
~~Defined~~ the CRTF’s duties ~~to~~ include: (a) Coral Reef Mapping and Monitoring, (b) Research, (c) Conservation, Mitigation, and Restoration, and (d) International Cooperation ~~and required that these be addressed.~~

Between its inception and the close of last year, the Coral Reef Task Force met seven times. It created six working groups to help carry out its work and responsibilities: 1) Mapping & Information; 2) Coastal Uses; 3) Air & Water Quality; 4) Education & Outreach; 5) International; and 6) Ecosystem Science & Conservation. Members developed, finalized, and adopted a first-ever “U.S. National Action Plan to Conserve Coral Reefs” on March 2, 2000, and implemented various elements of the National Action Plan prior to and following its official adoption. The Task Force unanimously adopted a Charter in December of last year. An Oversight Policy, which was initially drafted on November 2, 1999, put out for public review, and subsequently revised was never formally adopted. The Task Force is next scheduled to meet in October.

III. The Coral Reef Conservation Act

~~1.~~ Congress reinforced the federal commitment to coral reef conservation when it enacted the Coral Reef Conservation Act (CRCA, P.L. 106-562) in December of 2000. The CRCA called for NOAA to develop a parallel National Coral Reef Action Strategy and submit it to Congress within six months. It also established a Coral Reef Conservation Program to fund coral reef conservation projects, enabled the creation of a Coral Reef Conservation Fund in cooperation with a non-profit organization to solicit donations and raise additional funding, and authorized a National Program to carry out activities to conserve coral reefs and coral reef ecosystems. Congress authorized \$16 million dollars annually to carry out the Act.

IV. The Northwestern Hawaiian Islands Coral Reef Reserve

The Federal Government has also taken steps to protect special geographic areas. The Northwestern Hawaiian Islands contain a significant percentage of U.S. coral reefs, perhaps more than half. The Northwestern Hawaiian Islands Coral Reef Reserve (CRR) came into existence through a series of administrative and legislative actions. On May 28, 2000, President Clinton issued Executive Order 13158 on Marine Protected Areas (MPAs) and included direction to the Secretaries of Commerce and Interior to review and provide recommendations on protection for this area. Shortly thereafter, Congress passed the

National Marine Sanctuaries Amendments Act of 2000 (P. L. 106-513), which specifically provided President Clinton with the authority to designate the Northwest Hawaiian Island Coral Reef Ecosystem Reserve, which he did on December 4, 2000 with the issuance of Executive Order 13178. The public was provided an opportunity to comment on the reserve designation, which was finalized by the issuance of Executive Order 13196 on January 18, 2001.

Evaluation and Recommendations

The Coral Reef Executive Order 13089 and the Coral Reef Conservation Act are both steps in the right direction. Each has had positive and significant impacts on the health of coral reef ecosystems. Although they have not succeeded in reversing the decline in coral reefs, this is not surprising given their short time frame, inherent limitations, and the extent of the problems facing coral reefs. To some extent, it may be possible to improve the effectiveness of these tools by strengthening their design and execution. In my opinion, however, new authorities will ultimately be necessary to arrest the degradation of coral reefs, either under a framework of regional marine protections or coral reef-specific directives.

I.

The Administration Should Recommit, with Congressional Support, to Strong Implementation of Executive Order 13089.

Chief among the Executive Order 13089's strengths was the fact that it elevated coral reef protection to a national issue. It also reflected the need to address human impacts, including those due to fishing and pollution, and pledged to bring the full force of existing tools to bear on addressing threats to coral reefs. It demonstrated presidential and federal agency commitment to conservation of coral reefs by adhering to a "no-degradation" standard and adopting a multi-agency, multi-jurisdictional approach in the creation of the Task Force.

Among its limitations was its necessary reliance on existing statutes, none of which were coral reef specific or provided a clear and overriding standard for the level of protection. This translated into a dependency on continued Administration and Congressional support and commitment to execution. Finally, this approach lacked a formal legal mechanism for the public to hold government accountable for its implementation.

II. The Administration Should Recommit to, and Congress Should Support, a Reinvigorated Task Force, a Strong Multi-Agency Approach, and Improved Implementation of the National Action Plan.

During its first two years, the Coral Reef Task Force was quite active, engaged, and effective. It reached out to the public and across all levels of government through public meetings, opportunities for public comment, and by expanding its membership and creating Working Groups to address major issue areas. It raised awareness within and outside of government regarding the coral reef crisis and the need to address threats to coral reefs. It provided opportunities for academic, scientific, and other non-governmental institutions to exchange information with the Task Force itself, its Working Groups, and the public. For our part, The Ocean Conservancy sponsored two independent symposia/workshops, utilizing Task Force meeting venues, to highlight key threats to coral reefs and mechanisms for addressing them.

The release and adoption of The National Action Plan to Conserve Coral Reefs on March 2, 2000 represents a high-water mark in the Task Force's efforts. This first such U.S. plan is extraordinary in many ways and was a major positive achievement for the Task Force. The plan does an excellent job of summarizing the

importance, value, and plight of coral reefs. It clearly and accurately identifies the major threats to coral reef systems, including fishing and pollution. Its two fundamental themes, eight core conservation principles, and identification of thirteen individual conservation strategies (action plans) are on-target, sound and strong. They provide an outstanding framework on which to build truly comprehensive coral reef protection.

The individual conservation strategies (action plans), however, are variable in degree of detail and inconsistent with respect to their level of specificity on measurable objectives and timelines for achieving them. The Mapping and Marine Protected Area plans were among the more detailed, specific and concrete. The Socioeconomic and Pollution plans were among the less specific. Although some progress has been made on implementation of individual action plans, plan implementation has slowed considerably over the past two years. In some cases, earlier accomplishments may be at risk of reversal. Not surprisingly, the more detailed, specific, and concrete plans have achieved the most.

In general, the Task Force seems unable to build on the momentum generated by the adoption of the generally strong National Action Plan and to maintain the energy and productivity of the Working Groups. In other words, follow-through has been disappointing. The Administration and Congress should revitalize the Task Force by bringing strong, multi-agency involvement to improved implementation, including devising benchmarks and monitoring progress with respect to the National Action Plan.

The Task Force spent considerable time on development of two other important items, a Charter and an Oversight Policy. Unfortunately, the Charter was not finalized and adopted until December 5th, 2001 and the Oversight Policy was never formally adopted. The Task Force should adopt the Oversight Policy at its next meeting in October and utilize it and the previously adopted Charter to improve reporting, tracking and monitoring of progress, implementation of conservation measures, and public responsiveness.

III. The Coral Reef Conservation Act Should be Strengthened by Providing Additional New Authority and Direction to Implement Coral Reef Conservation, Mitigation and Restoration Measures, Involving Other Federal Agencies in Conservation of Coral Reefs, and Increasing Authorized Funding Levels.

Enactment of the Coral Reef Conservation Act was an opportunity to build on the existing Coral Reef Executive Order, support and strengthen its underlying legislative mandate(s), provide a new legislative mandate and new authority for coral reef protection, and dramatically increase funding for coral reef conservation. As enacted, the Act is a step in the right direction, but it has important limitations to its effectiveness.

It contains a strong opening purposes section that includes “to preserve, sustain, and restore the condition of coral reef ecosystems,” provides language to develop a National Coral Reef Action Strategy that mirrors language in the Executive Order and the National Action Plan, and authorizes some new funding for coral reef protection and mechanisms to raise additional funds. However, it provides very limited new authority to protect coral reefs, adopts a single agency versus multi-agency approach, and authorizes only a modest amount of new funding (i.e. \$16 million annually) relative to the magnitude of the coral reef crisis.

Although the Act requires the development of a National Coral Reef Action Strategy, authorizes the Secretary to carry out certain specified conservation activities, and establishes a grant program to assist others in carrying out coral reef conservation projects, the Act lacks adequate direction and authority, relying principally on existing federal authorities and the help of local, state, and regional entities to achieve

its objectives. Given the threats confronting our coral reefs and their ecological and economic importance, this approach is inadequate.

The Act should be amended to direct and provide the authority and funding necessary to the Secretary to implement the National Coral Reef Action Strategy Implementation Plan called for by section 6402. The National Program to conserve coral reefs and coral reef ecosystems authorized by section 6406 of the Act also lacks adequate direction and authority and needs to be strengthened. This section should be amended to require the Secretary, as well as other federal agencies, to undertake activities to conserve coral reefs and coral reef ecosystems and should provide the necessary new authority and funding to undertake those activities.

- One of the primary shortcomings of the Act is that it relies almost exclusively on the National Oceanic and Atmospheric Administration. To its credit, NOAA has apparently elected not to reinvent the wheel and has indicated it is largely adopting and building on the multi-agency National Action Plan and is working with other agencies to develop the new National Coral Reef Strategy. Nonetheless, tasking the development of this new National Coral Reef Strategy to a single agency after a multi-agency Task Force had developed the prior National Action Plan may have impeded collaboration, limited available staff resources, and slowed down its completion. (Although the Strategy is now long overdue, I understand that it is nearing completion.)_In considering amendments to the Act, we urge the Committee to consider ways in which to better use the full resources of the federal government to achieve the Act's lofty and important objectives. Clearly, conservation of coral reefs cannot be accomplished without the support and active involvement of other federal agencies and departments.

Finally, the authorized funding levels need to match or exceed the need. Although a total of \$16 million annually is a significant down payment, this is not sufficient given the crisis confronting our coral reefs. Furthermore, authorized funding for coral reef conservation activities should not be restricted to activities carried out or funded by the Secretary of Commerce.

V. Developing New Authorities

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~~The array of threats facing U.S. and global coral reefs is powerful and taking a heavy and increasing toll on them. Multiple stressors are affecting most, if not all of the world's reefs. Fishing impacts are especially widespread, weaken the resistance and resilience of reefs to other natural and human stresses, and often act in consort with other threats to undermine the health of reefs. Fishing impacts can act synergistically with pollution, global change and other threats at the local, regional, and global levels to exacerbate the harm they cause.~~

Although it may be possible to get there by amending the existing Coral Reef Conservation Act to expand and strengthen its existing authorities, providing an increased role for other federal agencies in achieving its purposes, and significantly increasing federal funding for coral reef conservation activities, a new and separate Act may be needed. Such legislation could focus exclusively on coral reefs or; alternatively, it could provide new authority and funding for protection and restoration of a broader array of ecologically valuable and increasingly vulnerable marine ecosystems.

As we enter the 21st century, considerable attention concern and discussion revolves around the prior loss, continued degradation, and threatened future of valuable coral reefs around the world. Yet a century ago, similar attention, concern and discussion about then-valuable oyster reefs failed to avert their demise.

George Santayana once said: “Progress, far from consisting in change, depends on retentiveness. Those who do not remember the past are condemned to repeat it”. The wholesale destruction of oyster reefs and concurrent decline of oyster populations in many parts of the world provides a stunning portrait of severe ecosystem level damage due to intense fishing focused on critical ecosystem components and offers lessons for the future. Can we learn from the lessons of the past?

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